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Dielectric loss, loss of energy that goes into heating a dielectric material in a varying electric field.

The dielectric loss factor is a measure of the energy absorbed in the medium as an electromagnetic wave passes through that medium. In the ideal case, the losses are zero and the dielectric loss factor is zero.

For example, a capacitor incorporated in an alternating-current circuit is alternately charged and discharged each half cycle. During the alternation of polarity of the plates, the charges must be displaced through the dielectric first in one direction and then in the other, and overcoming the opposition that they encounter leads to a production of heat through dielectric loss, a characteristic that must be considered when applying capacitors to electric circuits, such as those in radio and television receivers. Dielectric losses depend on frequency and the dielectric material. Heating through dielectric loss is widely employed industrially for heating thermosetting glues, for drying lumber and other fibrous materials, for preheating plastics before molding, and for fast jelling and drying of foam rubber.